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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/707,471
Filing Date: December 16, 2003
Appellant(s): CHAWLA ET AL.

G. Mack Riddle, Reg. # 55,572
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 14 November 2007 appealing from the Office action mailed 14 June 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2003/0093436	BROWN et al.	5-2003
2005/0044164	O'FARRELL et al	2-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2003/0093436 to Brown et al (hereafter Brown) in view of US PGPub 2005/0044164 to O'Farrell et al (hereafter O'Farrell).

Referring to claim 1, Brown discloses a method for performing database operations on data obtained from a web service, the method comprising:

creating at least one proxy table in a database, each proxy table mapping to a method of the web service [creating a virtual table representative of the web service] (Brown: see [0062]-[0063] and [0074]);

in response to a database operation on a particular proxy table, converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping (Brown: see [0049]);

invoking the particular method of the web service (Brown: see [0057]-[0059]);

converting results obtained from invoking the particular method into data for use at the database based upon the corresponding mapping (Brown: see [0074]); and

performing the database operation on the data at the database to generate a result set (Brown: see [0075]-[0077], lines 1-2); and

returning the result set in response to the database operation (Brown: see [0075]-[0077], lines 1-2).

However, Brown fails to explicitly disclose the further limitations of generating meta data about the mapping and storing the meta data in a database table of the database and using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding

mapping. O'Farrell discloses using web services to retrieve data from multiple enterprise data stores (see [0012]), including the further limitations of generating meta data [metadata 312] about the mapping and storing the meta data in a database table of the database (see [0074], lines 8-12 and Fig 3) and using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping (see [0076]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the mapping structure of O'Farrell with the method of Brown by replacing the DADX files with the mapping structure. One would have been motivated to do so in order to provide a form of automation, which yields significant savings and efficiencies (O'Farrell: see [0005]).

Referring to claim 2, the combination of Brown and O'Farrell (hereafter Brown/Farrell) discloses the method of claim 1, wherein the web service comprises a service remotely available via a network [Internet] (see [0011], lines 5-6).

Referring to claim 3, Brown/Farrell discloses the method of claim 1, wherein the web service has a Web Services Description Language (WSDL) interface (Brown: see [0032], lines 1-7).

Referring to claim 4, Brown/Farrell discloses the method of claim 3, wherein said creating step includes creating said at least one proxy table based upon the WSDL interface (Brown: see [0062]-[0063] and [0074]).

Referring to claim 5, Brown/Farrell discloses the method of claim 3, wherein said creating step includes substeps of:

obtaining the WSDL interface from the web service (Brown: see [0032], lines 1-7); and

creating said at least one proxy table based upon the WSDL interface (see [0062]-[0063] and [0074]).

Referring to claim 6, Brown/Farrell discloses the method of claim 1, wherein said creating step includes creating meta data [i.e., business name] identifying a particular method of the web service to be invoked when a database operation is received on a particular proxy table (Brown: see [0033], lines 9-12).

Referring to claim 7, Brown/Farrell discloses the method of claim 1, wherein said creating step includes mapping arguments of the method [XML elements and attributes] to fields of the proxy table [column names] (Brown: see [0047]).

Referring to claim 8, Brown/Farrell discloses the method of claim 1, wherein said creating step includes mapping arguments of the method [XML elements and attributes] to equivalent database data types [SQL data types] (Brown: see [0047]).

Referring to claim 9, Brown/Farrell discloses the method of claim 1, wherein said creating step includes creating an object encapsulating the mapping of a web method to the database [mapping file 37] (Brown: see [0045]).

Referring to claim 10, Brown/Farrell discloses the method of claim 1, wherein said creating step includes storing the mapping between said at least one proxy table and methods of the web service [mapping file 37] (Brown: see [0045]).

Referring to claim 11, Brown/Farrell discloses the method of claim 10, wherein said step of converting results includes consulting the mapping for converting the results into data for application at the database [mapping file 37] (Brown: see [0045]).

Referring to claim 12, Brown/Farrell discloses the method of claim 1, wherein the database operation includes a JOIN operation and said step of performing the database operation includes joining data obtained from invoking the particular method of the web service with data stored in the database in generating the result set (Brown: see [0105]).

Referring to claim 13, Brown/Farrell discloses the method of claim 1, wherein said step of converting the database operation includes binding data from the database operation to a Simple Object Access Protocol (SOAP) call for invoking the particular method of the web service (Brown: see [0029] and [0039]).

Referring to claim 14, Brown/Farrell discloses the method of claim 1, wherein said step of converting the database operation includes converting data from the database operation into Extensible Markup Language (XML) format [XML document] (Brown: see [0088], lines 12-15).

Referring to claim 15, Brown/Farrell discloses the method of claim 1, wherein said step of converting the database operation includes creating a Simple Object Access Protocol (SOAP) request for invoking the particular method of the web service (Brown: see [0030], lines 1-4).

Referring to claim 16, Brown/Farrell discloses the method of claim 15, wherein said step of invoking the particular method includes transmitting the SOAP request to a remote web service [service external to the database] (Brown: see [0011], lines 1-4 and [0030], lines 1-4).

Referring to claim 17, Brown/Farrell discloses the method of claim 1, wherein said step of invoking the particular method includes receiving results from the web service (Brown: see [0075]-[0077]).

Referring to claim 18, Brown/Farrell discloses the method of claim 1, wherein said step of converting results includes converting results received in Simple Object Access Protocol (SOAP) format (Brown: see [0030], lines 1-4).

Referring to claim 19, Brown/Farrell discloses the method of claim 1, wherein said step of converting results includes converting results received in Extensible Markup Language (XML) format (Brown: see [0014]; [0026]; and Fig 2).

Referring to claim 20, Brown/Farrell discloses a computer-readable medium having processor-executable instructions for performing the method of claim 1 (Brown: see [0023], lines 6-8 and [0024]).

Referring to claim 21, Brown/Farrell discloses a downloadable set of processor-executable instructions for performing the method of claim 1 stored on a web server (Brown: see [0023], lines 6-8; [0024] and [0025], lines 3-4).

Referring to claim 22, Brown discloses in a computer connected to a network and having access to a remote service, a system for performing operations at a database on data obtained from the remote service, the system comprising:

a mapping module for creating database tables representing at least some methods of a remote service accessed through a defined interface [creating a virtual table representative of the web service] (Brown: see [0062]-[0063] and [0074]);

an invocation module for converting a database operation on a database table representing a method of the remote service into a call for invoking the method (Brown: see [0049] and [0057]-[0059]);

a communication module for transmitting the call for invoking the method to the remote service, and returning result values from invoking the method to the database (Brown: see [0011], lines 1-4; [0030], lines 1-4 and [0075]-[0077], lines 1-2); and

a conversion module for converting result values received from the method into database format (Brown: see [0074]).

However, Brown fails to explicitly disclose the further limitations of storing mapping data regarding methods of the remote service in a database system table and using the mapping data. O'Farrell discloses using web services to retrieve data from

multiple enterprise data stores (see [0012]), including the further limitations of storing mapping data regarding methods of the remote service in a database system table (see [0074], lines 8-12 and Fig 3) and using the mapping data (see [0076]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the mapping structure of O'Farrell with the system of Brown by replacing the DADX files with the mapping structure. One would have been motivated to do so in order to provide a form of automation, which yields significant savings and efficiencies (O'Farrell: see [0005]).

Referring to claim 23, Brown/Farrell discloses the system of claim 22, wherein the remote service comprises an application available via a network [Internet] (Brown: see [0011], lines 5-6).

Referring to claim 24, Brown/Farrell discloses the system of claim 22, wherein the defined interface comprises a Web Services Description Language (WSDL) interface (Brown: see [0032], lines 1-7).

Referring to claim 25, Brown/Farrell discloses the system of claim 24, wherein said mapping module creates the database tables based on the WSDL interface (Brown: see [0062]-[0063] and [0074]).

Referring to claim 26, Brown/Farrell discloses the system of claim 22, wherein said mapping module creates meta data identifying a particular method of the remote

service to be invoked when an operation is received on a given database table (Brown: see [0033], lines 9-12).

Referring to claim 27, Brown/Farrell discloses the system of claim 22, wherein said mapping module maps arguments of a method [XML elements and attributes] to columns of a database table [column names] (Brown: see [0047]).

Referring to claim 28, Brown/Farrell discloses the system of claim 22, wherein each database table created by the mapping module represents a method of the remote service [service external to the database] (Brown: see [0011], lines 1-4 and [0030], lines 1-4).

Referring to claim 29, Brown/Farrell discloses the system of claim 22, wherein said mapping module creates an object [mapping file 37] encapsulating the mapping of a method of the remote service to a database table (Brown: see [0045]).

Referring to claim 30, Brown/Farrell discloses the system of claim 22, further comprising: a mapping repository [database 29] for storing mappings between database tables and methods of the remote service (Brown: see Fig 3).

Referring to claim 31, Brown/Farrell discloses the system of claim 30, wherein the conversion module consults the mapping repository for converting result values into database format (Brown: see [0075]-[0077], line 2).

Referring to claim 32, Brown/Farrell discloses the system of claim 22, wherein the operation received on the database table comprises a JOIN operation and said

conversion module joins result values obtained from invoking the method with data stored in the database (Brown: see [0105]).

Referring to claim 33, Brown/Farrell discloses the system of claim 22, wherein said invocation module binds the data from the operation to a Simple Object Access Protocol (SOAP) call for invoking the method of the remote service (Brown: see [0029] and [0039])

Referring to claim 34, Brown/Farrell discloses the system of claim 22, wherein said invocation module converts data from the database operation into Extensible Markup Language (XML) format (Brown: see [0014]; [0026]; and Fig 2).

Referring to claim 35, Brown/Farrell discloses the system of claim 22, wherein said invocation module creates a Simple Object Access Protocol (SOAP) request for invoking the method of the remote service (Brown: see [0030], lines 1-4).

Referring to claim 36, Brown discloses the system of claim 35, wherein said communication module sends the SOAP request to the remote service [service external to the database] (Brown: see [0011], lines 1-4 and [0030], lines 1-4).

Referring to claim 37, Brown/Farrell discloses the system of claim 22, wherein said conversion module converts result values received in Simple Object Access Protocol (SOAP) format into database data types [mapping XML elements and attributes into SQL data types] (Brown: see [0047]).

Referring to claim 38, Brown/Farrell discloses the system of claim 22, wherein said conversion module converts result values received in Extensible Markup Language (XML) format into database data types [mapping XML elements and attributes into SQL data types] (Brown: see [0047]).

Referring to claim 39, Brown/Farrell discloses the system of claim 22, wherein said conversion module provides converted result values in response to the operation on the database table (Brown: see [0075]-[0077], line 2).

Referring to claim 40, Brown discloses in a database system, a method for performing database queries on data available from an application, the method comprising:

establishing communication between a database and an application having an interface (Brown: see [0026], lines 1-7 and [0032], lines 1-3);

creating database tables to represent at least some functions of the application based on the interface, each database table corresponding to a function of the application [creating a virtual table representative if the web service] (Brown: see [0062]-[0063] and [0074]);

in response to a database query received on a database table corresponding to a function of the application, generating input arguments [input parameters] expected by the function based on the database query (Brown: see [0049]);

invoking the function with the input arguments and receiving results from invoking the function (Brown: see [0057]-[0059]);

converting the results into a database result set (Brown: see [0074]); and

returning the database result set in response to the database query [the statement returns a table containing the response from the supplier] (Brown: see [0075]-[0077], lines 1-2).

However, Brown fails to explicitly disclose the further limitations of generating meta data about the mapping and storing the meta data in a database table of the database and using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping. O'Farrell discloses using web services to retrieve data from multiple enterprise data stores (see [0012]), including the further limitations of generating meta data [metadata 312] about the mapping and storing the meta data in a database table of the database (see [0074], lines 8-12 and Fig 3) and using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping (see [0076]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the mapping structure of O'Farrell with the method of Brown by replacing the DADX files with the mapping structure. One would have been motivated to do so in order to provide a form of automation, which yields significant savings and efficiencies (O'Farrell: see [0005]).

Referring to claim 41, Brown/Farrell discloses the method of claim 40, wherein the application comprises a web service (Brown: see [0026], lines 1-7).

Referring to claim 42, Brown/Farrell discloses the method of claim 40, wherein the application comprises a service available via a network [Internet] (Brown: see [0011], lines 5-6).

Referring to claim 43, Brown/Farrell discloses the method of claim 40, wherein the interface comprises a Web Services Description Language (WSDL) interface (Brown: see [0011], lines 5-6).

Referring to claim 44, Brown/Farrell discloses the method of claim 40, wherein said step of creating database tables includes creating meta data [i.e., business name] identifying a particular function to be invoked when an operation is received on a given database table (Brown: see [0033], lines 9-12).

Referring to claim 45, Brown/Farrell discloses the method of claim 40, wherein said step of creating database tables includes mapping arguments of a given function [mapping arguments of the method which include XML elements and attributes] to columns [column names] of the corresponding database table (Brown: see [0047]).

Referring to claim 46, Brown/Farrell discloses the method of claim 40, wherein said step of invoking the function includes binding data from the database query to a Simple Object Access Protocol (SOAP) call (Brown: see [0029] and [0039]).

Referring to claim 47, Brown/Farrell discloses the method of claim 40, wherein said step of invoking the function includes converting data from the database query into Extensible Markup Language (XML) format [XML document] (Brown: see [0088], lines 12-15).

Referring to claim 48, Brown/Farrell discloses the method of claim 40, wherein said step of invoking the function includes creating a Simple Object Access Protocol (SOAP) request for invoking the function (Brown: see [0030], lines 1-4).

Referring to claim 49, Brown/Farrell discloses the method of claim 48, wherein said step of invoking the function includes transmitting the SOAP request to a remote server [service external to the database] (Brown: see [0011], lines 1-4 and [0030], lines 1-4).

Referring to claim 50, Brown/Farrell discloses the method of claim 40, wherein said step of invoking the function includes receiving results in Extensible Markup Language (XML) format (Brown: see [0014]; [0026]; and Fig 2).

Referring to claim 51, Brown/Farrell discloses the method of claim 40, wherein said step of invoking the function includes receiving results in Simple Object Access Protocol (SOAP) format (Brown: see [0030], lines 1-4).

Referring to claim 52, Brown/Farrell discloses the method of claim 40, wherein said step of converting the results includes converting results received in Simple Object Access Protocol (SOAP) format (Brown: see [0030], lines 1-4).

Referring to claim 53, Brown/Farrell discloses the method of claim 40, wherein said step of converting the results includes converting results received in Extensible Markup Language (XML) format (Brown: see [0014]; [0026]; and Fig 2).

Referring to claim 54, Brown/Farrell discloses a computer-readable medium having processor-executable instructions for performing the method of claim 40 (Brown: see [0023], lines 6-8 and [0024]).

Referring to claim 55, Brown/Farrell discloses a downloadable set of processor-executable instructions for performing the method of claim 40 (Brown: see [0023], lines 6-8; [0024]; and [0025], lines 3-4).

(10) Response to Argument

This Examiner's Answer will address the Appellants' arguments in the order in which they appear in the appeal brief.

- ***Issue A*: First Ground: Claims 1-55 rejected under 35 U.S.C 103(a)**

  - ***Issue 1*: General**

Appellants' Argument: Under Section 103(a), a patent may not be obtained if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. To establish a prima facie case of obviousness under this section, the Examiner must establish: (1) that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) that there is a reasonable expectation of success, and (3) that the prior art reference (or references when combined) must teach or suggest all the claim limitations. (See e.g., MPEP 2142). The reference(s) cited by the Examiner fail to meet these conditions.

Examiner's Response: The Examiner disagrees that these three conditions have not been meet. In response to Appellants' argument (1) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation comes from the O'Farrell reference. In response to Appellants' argument that there is no reasonable expectation of success, the examiner disagrees since both Brown and O'Farrell focus on the invocation of web services. In regards to the third requirement, the references when combined teach or suggest all the claim limitations for the reasons stated below.

- ***Issue 2*: Claims 1-55**

Appellants' Argument: Appellant's claimed invention is distinguishable from Brown and O'Farrell in a number of respects. Appellant's invention creates mappings to methods of Web services and encapsulates these mappings in proxy tables that are used to represent methods of Web services (Appellant's specification, paragraphs [0128]-[0129]). During the creation of these proxy tables, meta data about these mappings is automatically generated and stored by Appellant's system to enable the remote Web service to be located and called in response to an operation on the proxy tables (Appellant's specification, paragraph [0091]). Significantly, Appellant's system automatically creates the proxy table and related mappings given a Web Services Description Language file describing the Web service (Appellant's specification, paragraph [0077] and paragraph [0091]). Appellant's system stores the mapping meta data in system tables of the database (Appellant's specification, paragraph [0085]). This meta data is used when a database operation (e.g., SQL SELECT operation) on the proxy table representing the remote Web service is received to map the relational data types to the appropriate representation expected by the Web method (Appellant's specification, paragraph [0091] and paragraph [0094]). These features are specifically included as limitations of Appellant's claims. For example, Appellant's Claim 1 includes the following claim limitations:

> A method for performing database operations on data obtained from a web service, the method comprising:

creating at least one proxy table in a database, each proxy table mapping to a method of the web service;
generating meta data about the mapping and storing the meta data in a database table of the database;
in response to a database operation on a particular proxy table, using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping;
invoking the particular method of the web service;
converting results obtained from invoking the particular method into data for use at the database based upon the corresponding mapping;
performing the database operation on the data at the database to generate a result set; and
returning the result set in response to the database operation. (Appellant's claim 1, emphasis added)

Examiner's Response: In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., meta data about these mappings is **automatically generated and stored**; and system **automatically** creates the proxy table and related mappings) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, in regards to the emphasis on the word automatic, it is noted that section 2144.04 [R-6] of MPEP states the following:

III. AUTOMATING A MANUAL ACTIVITY

In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958) (Appellant argued that claims to a permanent mold casting apparatus for molding trunk pistons were allowable over the prior art because the claimed invention combined "old permanent-mold structures together with a timer and solenoid which automatically actuates the known pressure valve system to release the inner core after a predetermined time has elapsed." The court held that broadly providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art.).

Appellants' Argument: In contrast to Appellant's invention, Brown's system relies on mapping information stored in a file that is external to the database which is referred to as "DADX" or "Document Access Definition" file (Brown, paragraph [0045]). This is also shown at Fig. 6 which illustrates the DADX file 51 associated with the Websphere Application Server 63 (Brown, Fig. 6). The DADX file is a configuration file that defines the operations that can be performed by the Web Service (Brown, paragraph [0050]). (Appeal Brief: pages 9-10)

Examiner's Response: The examiner disagrees with Appellants' statement "Brown's system relies on mapping information stored in a file that is external to the database which is referred to as "DADX" or "Document Access Definition" file (Brown, paragraph [0045]). This paragraph states "One of the inputs into both storage and retrieval is the user-specified mapping file 37 that creates the association between relational data and XML document structure. This mapping file 37 is called a Document Access Definition (DAD) 37 and provides a way to create an XML document 35 and specify the XML elements, attributes and shape desired. The focus of this approach is

in moving and manipulating XML documents." The examiner fails to see where the paragraph states that the file is external to the database. The appellants place emphasis on the first line of paragraph [0045] which states "One of the inputs into both storage and retrieval is the user-specified mapping file." The term "inputs" does not explicitly mean that the file has to coming from a location external to the database. An input can be interpreted as also coming from within the database itself. The disputed claim limitation recites "creating at least one proxy table in a database, each table mapping to a method of the web service." The examiner's rejection for the claim limitation is as follows: " creating at least one proxy table in a database, each proxy table mapping to a method of the web service [creating a virtual table representative of the web service] (Brown: see [0062]-[0063] and [0074])." Paragraph [0074] states "This service may be made accessible to DB2 by turning it into a Table function, I.e., by creating a virtual table representative of the web service." Therefore, the virtual table is considered to represent the proxy table which maps to the method of the web service.

Appellants' Argument: Although O'Farrell discusses meta data, O'Farrell makes no mention of using the meta data to invoke a method of a Web service. In O'Farrell's system, the meta data specifies how data from different enterprise data sources will be stored and related in a mobile client which is connected to one or more backend data stores through a middle tier application server (O'Farrell, paragraphs [0071]-[0074]; Fig. 3). More particularly, the Examiner references paragraph [0076] of O'Farrell as providing the teaching of using meta data for converting a database

operation into a format for invoking a particular method of a Web service. However, paragraph [0076] of O'Farrell provides as follows:

> In the metadata 312, the data definition from the enterprise data sources is mapped to views that are used to create the data store on the client and store the relevant business data on the mobile client from the enterprise data sources in a relational database. Access to this business data is performed via a business object layer defined and stored in metadata on the mobile client. As shown in FIG. 3, the ORDER_ID from the ERP data source is mapped to a business object property called OrderID, whose relational definition is stored in metadata 318 on the mobile client 316 and utilized by one or more the mobile applications also defined in metadata. The F NAME data from the CRM enterprise data source is mapped to (stored into) the FirstName business object property definition stored in the mobile client database, and the L_NAME data is mapped to the LastName business object property. Similarly, the CRED_LIM data from the HR/Finance data source is mapped to the CreditLimit business object property, and the WARRANTY data from the Legacy/ODBC data source is mapped to the Warranty business object property. Thus, data from the potentially dissimilar and incompatible disparate enterprise data sources 302, 304, 306, 308, 310 are delivered to the mobile client through the Data Manager Web Services to the local data store (represented by the lines from the enterprise data sources to the application server 314) in the proper format for access using one of the business objects on the mobile client (indicated in the mobile client 316 with actual values). (O'Farrell, paragraph [0076], emphasis added)

As illustrated above, in O'Farrell's system, the mapping is from data definitions from enterprise data sources to views that are used to create data stores on the client 11 (O'Farrell, paragraphs [0075]-[0076]). In other words, the mapping described in O'Farrell is a mapping between data fields of a client device and data fields of one or more back end data sources. O'Farrell provides no teachings of using the meta data for purposes of invoking a method of a Web service. To the extent O'Farrell describes a Web service, it describes a "Connector Web Service" which acts an intermediary between a client and an enterprise data source. Additionally, O'Farrell's system does not operate in response to a database operation, nor does it convert the database

operation into a format for invoking a method of a Web service as provided, for example, in the following limitations of Appellant's claim 1:

> in response to a database operation on a particular proxy table, using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping; (Appellant's claim 1, emphasis added)

Examiner's Response: The Examiner's rejection of the disputed claim limitation states "O'Farrell discloses ... generating meta data [metadata 312] about the mapping and storing the meta data in a database table of the database (see [0074], lines 8-12 and Fig 3) and using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping (see [0076])."

> [0074] FIG. 3 shows an example of how the Connectors interface the enterprise data sources to the mobile enterprise platform. On the left side of FIG. 3 are representations of multiple enterprise data sources, including an ERP data source 302, a CRM data source 304, an HR/Finance data source 306, a Legacy/ODBC data source 308, and can include other Web Services or other sources (not shown). In the middle portion of FIG. 3 is a representation of the metadata 312 that specifies to the application server 314 how data from the different enterprise data sources will be stored and related in the mobile client 316, which is represented at the right side of FIG. 3.

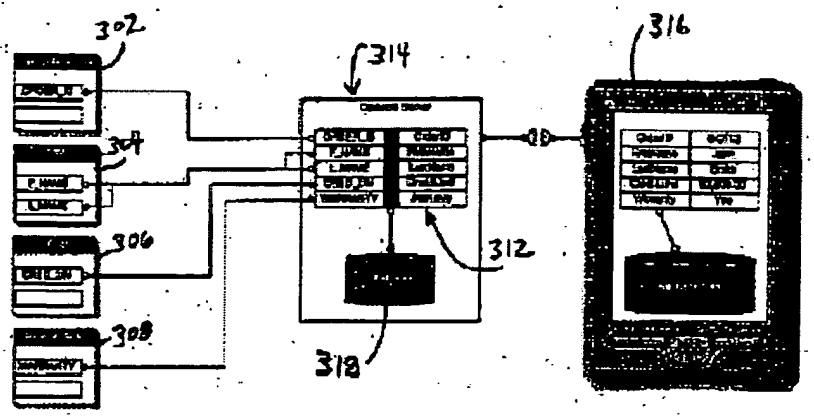

FIG. 3

The data sources on the left side of the Figure (i.e., 302, 304, 306 and 308) represent Web Services and the device on the right side [316] represents the client device. The client device requests data, receives data updates, provides new data and receives configuration changes (O'Farrell: [0031], lines 6-10). In response to these operations [methods], the metadata table [312] maps the fields of the client device to the web service in order to process the requested operations. Processing of the operations requires the invocation of the operation.

Appellants' Argument: Additionally, O'Farrell's system maintains the mapping at a middle tier application server which acts between a client and one or more data

sources. Appellant's claimed invention does not require any such middle tier or intermediary. (Appeal Brief: page 13)

Examiner's Response: The claimed limitations do not limit the claimed invention in a manner that prohibit it from including a middle tier.

- ***Issue 3*: Appellant does not believe that the O'Farrell reference is properly considered as prior art**

Appellants' Argument: The O'Farrell non-provisional patent application which was published as US PGPub 2005/0044164 has a filing date of December 23, 2003. This date is after the December 16, 2003 filing date of Appellant's non-provisional application. Moreover, Appellant's patent application claims the benefit of provisional application serial no. 60/320,009 (Docket No. SYB/0093.00) filed March 14, 2003. Although the O'Farrell reference also 13 claims priority to three provisional applications filed Dec. 23, 2002 (Serial No. 60/436,230), Jan. 23, 2003 (Set. No. 60/442,810) and Apr. 7, 2003 (Set. No. 60/461,588), Appellant's review of these three provisional applications finds that the disclosure included in the three provisional filings appears to be very different than that found in the published version of the O'Farrell application. Although the 35 U.S.C. 102(e) date of a reference may relate back to its earliest effective U.S. filing date, this requires that the prior provisional application(s) must properly support the subject matter used to

make the rejection in compliance with 35 U.S.C. 112, first paragraph (See e.g., MPEP §706.02(f)(1)). (Appeal Brief pages 14-15)

Examiner's Response: Page 10 of Provisional 60/442810 relates to the Hyper data Links. The Hyperlinks relate to the metadata mappings. Pages 18 and 19 also show these mappings. Page 15 relates to the update process model. The update as also stated in the O'Farrell publication is method which is invoked. The metadata is stored in a database on the Dexterra server as depicted in the figure on Page 8. This is the same server depicted in Figure 3 of the O'Farrell publication.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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